

Patent claims

1. A device comprising a solar cell arrangement and a liquid crystal display (2), whereby the solar cell arrangement comprises

- an at least partially transparent carrier (4) as well as
- at least one solar cell (1), which is provided in a stacked arrangement with at least
- one contact (5) that is at least partially transparent,
- a photovoltaically active layer (6) and
- a contact (7)

and whereby

the liquid crystal display (2) in a stacked arrangement is provided with at least

- a first polarizer (12),
- a first carrier (9) that is at least partially transparent,
- a first contact (14) that is at least partially transparent,
- a liquid crystal (11),
- a second transparent contact (15),
- a second transparent carrier (10),
- a second polarizer (13) and
- a reflector (16),

characterized in that the carrier (4) of the solar cell (1) is a carrier (10) of the liquid crystal display (2).

2. A device according to claim 1, wherein the carrier (4) of the solar cell arrangement (1) is the first carrier (9) of the liquid crystal display (2).
3. A device according to claim 2, wherein the transparent contact (5) of the solar cell arrangement (1) is the first transparent contact (14) of the liquid crystal display (2).
4. A device according to claim 2 or 3, wherein the solar cell arrangement (1) is designed to be at least partially semi-transparent.
5. A device according to claim 2, 3 or 4, wherein the solar cell arrangement (1) has an area (8) in which the contact (7) is removed and whereby a liquid crystal display (2) is arranged in said area (8).
6. A device according to claim 5, wherein the photovoltaically active layer (6) is removed in said area (8).

7. A device according to claim 6, wherein the transparent contact (5) of the solar cell (1) is removed in said area (8).

8. A device according to one of the claims 2 through 7, wherein the carrier (4) of the solar cell arrangement (1) is the dial face of a timepiece.

9. A device according to one of the previous claims, wherein the carrier (4) of the solar cell arrangement (1) is the photovoltaically active layer (6) of the solar cell (1).

10. A method for producing a device according to claim 7, characterized in that

- the solar cell arrangement (1) is manufactured in a first step,
- the contact (7), the photovoltaically active layer (6) and the transparent contact (5) is removed in a second step in said area (8),
- the first transparent contact (14) is applied in a third step,
- the first transparent contact (14) is constructed in a fourth step,
- the separately manufactured stack comprising the second transparent contact (15), the second transparent carrier (10), the second polarizer (13), and the liquid crystal (11) are adhesively applied in a fifth step.

11. A method for producing a device according to claim 6, whereby

- the solar cell arrangement (1) is manufactured in a first step,
- the contact (7) and the photovoltaically active layer (6) is removed in a second step in said area (8),
- an additional transparent first contact (14) is partially applied in a second step,
- the transparent contact (5) of at least one solar cell (1) and possibly an additional first contact (14) are constructed in a fourth step,
- the separately manufactured stack comprising the second transparent contact (15), the second transparent carrier (10), the second polarizer (13), the reflector (16) and the liquid crystal (11) are adhesively applied in a fifth step.

12. A method for producing a device according to claim 5, whereby

- the solar cell arrangement (1) is manufactured in a first step,
- the contact (7) is removed in said area (8) in a second step,
- a transparent first contact (14) is applied in a third step,
- the transparent contact (14) is constructed in a fourth step, and
- the separately manufactured stack comprising the second transparent contact (15), the second transparent carrier (10), the second polarizer (13), the reflector (16), and the liquid crystal (11) are adhesively applied in a fifth step.

13. The use of the device according to one of the claims 1 through 9 as energy source and display unit of a timepiece, particularly a wristwatch.